

**Inorganic Thermogravimetric Analysis**

By Clément Duval. Second and revised edition. Translated from the French by Dr. Ralph E. Oesper. Pp. xv + 722. (Amsterdam and London: Elsevier Publishing Company, 1963.) 120s.

THE second edition of Prof. Duval's *Inorganic Thermogravimetric Analysis* amply illustrates the considerable advance of thermogravimetry during the past decade, and its bid to modify, or even replace, classical gravimetric techniques.

The new edition is divided into two parts. In Part I, the author has included several new chapters. Two chapters are entirely devoted to a detailed survey of the commercially available thermobalances, and a further section directs attention to the precautions necessary for their use. The chapter on the applications of the thermobalances has been extended to cover the wider aspects of the subject.

In the second part of the book, the thermolysis curves of the compounds of 78 elements are described, and these now include those studied by other workers in the field. A survey of materials suitable as standards for titrimetric analyses has been made. A brief chapter on purely organic compounds has also been added.

The author has shown that the rate of heating, the type of thermobalance, and the nature of the substance under investigation, may lead to different results. He has also emphasized the importance of buoyancy corrections. The omission of most of these factors from the first edition often contributed to a source of adverse criticism of the pioneering work of Prof. Duval.

The second edition is not, however, entirely free from errors. For example, on p. 239, the formula of hexamine silicomolybdate is incorrect, as are the two subsequent formulae. Again on p. 441, it is stated that "the decomposition of strontium oxalate into carbon monoxide and carbon dioxide, is not instantaneous as is the case of calcium oxalate". It must be pointed out that neither strontium nor calcium oxalate decomposes directly into the oxides of carbon; the first stage is a decomposition into carbon monoxide and the metal carbonate (as stated in the original French edition).

A further criticism is that temperatures are recorded to 1° C; one wonders whether this is really justified, since most thermobalances are accurate to about 5° C.

Nevertheless, the new edition is a marked improvement on the first. The book itself is attractively printed and bound; the neat diagrams and clear photographs all serve to create a favourable impression. The price of 120s. is high; the book is a veritable mine of information on thermogravimetry and all laboratories are recommended to have a copy.

G. LETON  
J. MENDHAM

**Practical Analytical Methods for Connective Tissue Proteins**

By J. E. Eastoe and A. Courts. Pp. xiv + 145. (London: E. and F. Spon, Ltd., 1963.) 42s.

RECENT advances in the understanding of protein structure all stem from the development of new analytical methods: paper chromatography, counter-current distribution, ion-exchange chromatography, starch-gel electrophoresis—each technique has led to new and exciting discoveries made possible only by the new method.

*Practical Analytical Methods for Connective Tissue Proteins* offers much information of value to an investigator freshly entering the field, but less to an experienced protein chemist. A large section is devoted to quantitative amino-acid analysis, and the author's experience in this subject is especially evident. Much of the experimental detail in this section is provided for investigators who lack automatic equipment. It is now realized, however, that an automatic amino-acid analyser is essential for the

rapid performance of accurate analyses. Therefore, in so short and expensive a book, detailed descriptions of earlier methods which have been superseded may be out of place. In addition, some of the procedures recommended are inadequate. For example, the authors of this book recommend conditions for the hydrolysis of proteins involving simple heating under reflux in the presence of air; yet Moore and Stein have demonstrated the necessity for rigorous removal of air from solutions to be hydrolysed. By the selection of constant conditions in the preparation of a hydrolysate, the losses of labile amino-acids are made reproducible and exact corrections may be applied. For similar reasons, the removal of acid after a hydrolysis is best performed rapidly with the aid of a rotary evaporator, and not slowly in a vacuum desiccator.

In general, though, the experimental details provided are sufficient; for more precise information, the reader would be advised to study original papers and reviews from scientific journals. It should be noted that the authors themselves state that they have attempted to present simple methods that can be performed with a degree of accuracy; in this endeavour they have succeeded.

D. G. SMYTH

**The Anatomy of the Rainbow Lizard *Agama agama* (L.)** With a Glossary of Anatomical Terms. By Dr. Vernon A. Harris. (Hutchinson Tropical Monographs.) Pp. 104. (London: Hutchinson and Co. (Publishers), Ltd., 1963.) 15s.

WITH the rapid expansion of West African colleges with departments of zoology, there is an urgent need for a laboratory manual which will guide students and teachers alike in investigating the anatomy of their local and ubiquitous lizards. The species chosen by the author as the subject for dissection is a typical example of a family of African, Oriental and Australian distribution and besides is readily available in other countries through dealers. The book will not, therefore, be limited in its appeal to centres of learning in Africa but should serve as a useful and reliable guide for most students of vertebrate anatomy. Both the text and the diagrams have an exemplary clarity, the coverage of the subject is sound and the glossary more than adequate. I myself hope that improvements to the further reading section will be made in a revised edition.

A. G. C. GRANDISON

**The Snake**

By John Crompton. Pp. 152 + 20 plates. (London: Faber and Faber, Ltd., 1963.) 18s. net.

THE author has written five similar books on other vertebrate groups; all are outstanding for their readability, entertainment and instruction value. The volume under review is no exception. It deals principally with the habits of snakes, at a semi-popular level, with special emphasis on the constrictors and on those species equipped with venom-injecting apparatus; but there is also an account of the origin, evolution, locomotion and anatomy of snakes which, being restricted to one chapter, is not overburdened with scientific facts and terminology and provides the lay reader with a lucid and interesting story.

Happily, erroneous statements are few and for the most part result from the author's limited acquaintance with the specialist's literature. For example, the more recent investigations on the egg-eating snake, *Dasyplettis*, have escaped his attention. Far from being an obstacle, the presence of teeth, which incidentally are far more numerous than the author suggests, have been shown to serve an important function. The hypophysial processes on the vertebrae do not bear enamel. Other unfortunate errors include the South African many-horned viper being dubbed Cleopatra's executioner and the reproduction of one of Seba's plates which features not an Egyptian asp but more likely a harmless species.

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